

What is claimed is:

1. A method for phone call routing in a telephone service provider network in interaction with information processing in an enterprise network, the method comprising the steps of:
 - a) receiving a call by a telephone service provider network ("TSPN") from a caller,
 - b) processing the call by the TSPN;
 - c) sending a call notification to a telecommunication application server ("TAS") of the enterprise, wherein the TAS is not within the TSPN;
 - d) delaying the TSPN's processing of the call, wherein c) and d) are performed before the call is completed; and
 - e) resuming the processing of the call in response to a notification from the TAS.
2. The method of claim 1, wherein the delaying of the TSPN's processing of the call is responsive to a delay notification from the TAS.

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3. The method of claim 2, wherein the resuming in step e) is responsive to a certain delay, the certain delay being specified in the delay notification.

4. The method of claim 1, wherein the notification in step e) is a resume notification and the processing is resumed immediately upon receiving the resume notification.

5. The method of claim 1 comprising the step of:
completing the call by the TSPN responsive to a signal indicating that a unit of terminal equipment for the enterprise has accepted the call.

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6. A method for information processing in an enterprise network phone in interaction with phone call routing in a telephone service provider network, the method comprising the steps of:

a) receiving, from a public switched telephone network ("TSPN") by a

5 telecommunication application server ("TAS") not within the TSPN, a call notification, wherein the call is directed to a callee associated with an enterprise, and wherein the TSPN is operable to delay processing of the call before completing the call in order to permit an enterprise application of the TAS to begin processing for the call;

b) processing the call by an enterprise application of the TAS responsive to the call

10 notification; and

c) sending the TSPN a notification indicating for the TSPN to resume processing of the call.

7. The method of claim 6, wherein the call notification includes first information and the

15 enterprise application processing of the method comprises the steps of:

searching, responsive to receiving the first notification, for second information associated with the first information; and

forwarding the second information for delivery to the callee.

20 8. The method of claim 7, wherein the second information is forwarded before the TSPN completes the call.

9. The method of claim 7, wherein the notification of step c) comprises:
a resume notification sent to the TSPN after a predetermined delay, so that the TSPN may
resume processing immediately upon receiving the resume notification.
- 5 10. The method of claim 6, comprising the step of:
 signaling the TSPN to complete the call, wherein the signaling is responsive to accepting
 the call by a unit of terminal equipment for the enterprise.
- 10 11. The method of claim 6, wherein the notification of step c) comprises:
 a delay notification indicating for the TSPN to wait a specified time before resuming
 processing of the call.

12. A computer program product for phone call routing in a telephone service provider network in interaction with information processing in an enterprise network, the computer program product comprising:

a) instructions for receiving a call by a telephone service provider network ("TSPN")

5 from a caller, wherein the call is directed to a callee associated with an enterprise;

b) instructions for processing the call by the TSPN;

c) instructions for sending a call notification to a telecommunication application server ("TAS") of the enterprise, wherein the TAS is not within the TSPN;

d) instructions for delaying the TSPN's processing of the call, wherein instructions for c)

10 and d) are for sending the call notification and delaying the processing before the call is completed; and

e) instructions for resuming the processing of the call in response to a notification from the TAS.

15 13. The computer program product of claim 12, wherein the delaying of the TSPN's processing of the call is responsive to a delay notification from the TAS.

14. The computer program product of claim 13, wherein the resuming in instructions e) is responsive to a certain delay, the certain delay being specified in the delay notification.

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15. The computer program product of claim 12, wherein wherein the notification for instructions e) is a resume notification and the processing is resumed immediately upon receiving the resume notification.

16. The computer program product of claim 12, comprising:
instructions for completing the call by the TSPN responsive to a signal indicating that a
unit of terminal equipment for the enterprise has accepted the call.

17. A computer program product for information processing in an enterprise network phone in interaction with phone call routing in a telephone service provider network, the computer program product comprising:

- a) instructions for receiving, from a public switched telephone network ("TSPN") by a telecommunication application server ("TAS") not within the TSPN, a call notification, wherein the call is directed to a callee associated with an enterprise, and wherein the TSPN is operable to delay processing of the call before completing the call in order to permit an enterprise application of the TAS to begin processing for the call;
- b) instructions for processing the call by an enterprise application of the TAS responsive to the call notification; and
- c) instructions for sending the TSPN a notification indicating for the TSPN to resume processing of the call.

18. The computer program product of claim 17, wherein the call notification includes first information and the instructions for processing of the call by an enterprise application comprise:

instructions for searching, responsive to receiving the first notification, for second information associated with the first information; and
instructions for forwarding the second information for delivery to the callee.

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19. The computer program of claim 18, wherein the second information is forwarded before the TSPN completes the call.

20. The computer program of claim 18, wherein the notification of instructions c) comprises:

a resume notification sent to the TSPN after a predetermined delay, so that the TSPN may resume processing immediately upon receiving the resume notification.

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21. The computer program of claim 17, comprising:

instructions for signaling the TSPN to complete the call, wherein the signaling is responsive to accepting the call by a unit of terminal equipment for the enterprise.

10 22. The computer program of claim 18, wherein the notification of instructions c) comprises:

a delay notification indicating for the TSPN to wait a specified time before resuming processing of the call.

23. An apparatus comprising:

a processor; and

a memory storing instructions operable with the processor for phone call routing in a telephone service provider network in interaction with information processing in an enterprise

5 network, the instructions being executed for:

a) receiving a call by a telephone service provider network ("TSPN") from a caller,

wherein the call is directed to a callee associated with an enterprise;

b) processing the call by the TSPN;

c) sending a call notification to a telecommunication application server ("TAS") of the

10 enterprise, wherein the TAS is not within the TSPN;

d) delaying the TSPN's processing of the call, wherein c) and d) are performed before the call is completed; and

e) resuming the processing of the call in response to a notification from the TAS.

15 24. The apparatus of claim 23, wherein the delaying of the TSPN's processing of the call is responsive to a delay notification from the TAS.

25. The apparatus of claim 24, wherein the resuming in e) is responsive to a certain delay, the certain delay being specified in the delay notification.

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26. The apparatus of claim 23, wherein the notification in e) is a resume notification and the processing is resumed immediately upon receiving the resume notification.

27. The apparatus of claim 23, wherein the stored instructions are executed for:
completing the call by the TSPN responsive to a signal indicating that a unit of terminal
equipment for the enterprise has accepted the call.

28. A apparatus comprising:

a processor; and

a memory storing instructions operable with the processor for processing in an enterprise network in interaction with a telephone service provider network, the instructions being executed

5 for:

a) receiving, from a public switched telephone network ("TSPN") by a telecommunication application server ("TAS") not within the TSPN, a call notification, wherein the call is directed to a callee associated with an enterprise, and wherein the TSPN is operable to delay processing of the call before completing the call in order to permit an enterprise application

10 of the TAS to begin processing for the call;

b) processing the call by an enterprise application of the TAS responsive to the call notification; and

c) sending the TSPN a notification indicating for the TSPN to resume processing of the call.

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29. The apparatus of claim 28, wherein the call notification includes first information and the stored instructions are executed for:

searching by the enterprise application, responsive to receiving the first notification, for second information associated with the first information; and

20 forwarding the second information by the enterprise application for delivery to the callee.

30. The apparatus of claim 29, wherein the second information is forwarded before the TSPN completes the call.

31. The apparatus of claim 29, wherein the notification of c) comprises:
a resume notification sent to the TSPN after a predetermined delay, so that the TSPN may
resume processing immediately upon receiving the resume notification.
- 5 32. The apparatus of claim 28, wherein the stored instructions are executed for:
signaling the TSPN to complete the call, wherein the signaling is responsive to accepting
the call by a unit of terminal equipment for the enterprise.
33. The apparatus of claim 28, wherein the notification of c) comprises:
10 a delay notification indicating for the TSPN to wait a specified time before resuming
processing of the call.